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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/815,781

04/02/2004

Chih-Yang Yi

213-012-USP

8168

7590

06/12/2006

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EXAMINER

BRUENJES, CHRISTOPHER P

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/815,781

Applicant(s)

YI, CHIH-YANG

Examiner

Christopher P. Bruenjes

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
4a) Of the above claim(s) 9-15 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20040402.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group 1, claims 1-8, in the reply filed on April 24, 2006 is acknowledged.

2. Claims 9-15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on April 24, 2006.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

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4. The abstract of the disclosure is objected to because the abstract contains legal phraseology such as "comprises" and "comprised". Also, for clarification purposes TPR and PVA should be written out at least once within the abstract.

Correction is required. See MPEP § 608.01(b).

Claim Objections

5. Claim 1 is objected to because of the following informalities: TPR and PVA should be written out the first time it is used in the claims so that it is clear what the abbreviations stand for. Therefore, for clarity in the claims it is suggested that "TPR" in line 2 of claim 1 be changed to "thermoplastic rubber (TPR)" and the first "PVA" in line 4 of claim 1 be changed to "polyvinyl alcohol (PVA)". Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

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art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce et al (US 2003/0235662 A1) in view of Cordova (USPN 5,990,205).

Regarding claim 1, Pearce et al teach a flexible article having sense of touch such as a squeeze toy or ball (p.1, paragraphs 2 and 5). The article comprises a skin layer of elastomer gel (p.1, paragraph 5). The skin layer forms a hollow member that is filled and is formed by injection molding (p.2, paragraph 6, especially the 14th line from the top of page 2). The elastomer gel is thermoplastic rubber such as SEBS or SEPS (p.2, paragraph 7). Pearce et al further teach a jellylike substance is filled in the hollow member. The jellylike

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substance is a hydrated cross-linked polyvinyl alcohol (p.2, paragraph 5).

Pearce et al fail to explicitly teach the exact composition of the hydrated cross-linked polyvinyl alcohol. However, Cordova teaches that a cross-linked gel-like polyvinyl alcohol composition used to form deformable gel-like materials is substance comprising PVA, water, cross-linking agent, which acts as a plasticizer, and additional thickeners, which also acts as plasticizers (col.2, l.47-57). Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made that hydrated cross-linked polyvinyl alcohol gel-like substances would include polyvinyl alcohol, water, and cross-linking agent, which acts as a plasticizer, in order to form the PVA substance as hydrated and cross-linked so that is deformable and gel-like, as taught by Cordova.

Thus, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to select the hydrated cross-linked polyvinyl alcohol substance of Cordova as the fill for the flexible article of Pearce et al, since Pearce et al desires a hydrated cross-linked polyvinyl alcohol that is deformable and gel-like as the fill, and Cordova teaches that the hydrated cross-linked polyvinyl alcohol of

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Cordova has the desired properties and have higher elasticity than similar substances formed with additional fillers mixed into the substance, as taught by Cordova (col.1, 1.58-67).

Regarding claim 2, Cordova teach that the substance further comprises an emollient, which is a softness-enhancing additive (col.2, 1.53-55).

Regarding claims 3 and 4, Cordova teach that the solution comprises 10 to 30% PVA, 50 to 65% water, and 0.5 to 4% crosslinking agent and 1 to 5% thickener (col.2, 1.47-57). The cross-linking agent and thickener are both plasticizers (col.2, 1.35-46), which combined teaches approximately 10% plasticizer in the solution.

Regarding claim 5, Cordova teaches the cross-linking agent acting as a plasticizer is selected from borax or boric acid (col.3, 1.47-48).

Regarding claims 6 and 8, Cordova teaches that the softness-enhancing additive is glycerin and/or polypropylene glycol (col.6, 1.49-50) and teaches an example of adding the polypropylene glycol in an amount of 16% (col.5, 1.30-42).

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pearce et al in view of Cordova as applied to claim 2 above, and further in view of Bianco (USPN 6,348,534).

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Pearce et al and Cordova taken as a whole teach all that is claimed in claim 2 as presented above, but fail to explicitly teach the specific weight percentages claimed in claim 7.

However, Bianco teaches that Cordova teaches that the play gel should not have greater than 65% water in order to avoid forming a gel that is free-flowing and gooey (col.1, 1.20-26). Bianco goes on to teach that a similar play gel is formed having between 1 to 30 percent PVA (col.2, 1.56-65) and between 78 and 82% water (col.4, 1.30-34), in order to form similar play gel with an unusually high water content, providing a reduced materials cost in manufacturing compared to other play material while maintaining the gel properties (col.1, 1.52-55). Bianco further teach that plasticizers such as sodium sulfate, sodium carbonate and borax are applied in an amount of between 1 and 3% (col.4, 1.20-24), in the same manner as the solution taught in Cordova. Also in the same manner as Cordova, Bianco teaches that softness enhancing additives or emollients are added to the solution, which Cordova teaches is added in an amount approximately 15% as shown above. Therefore, it would have been obvious to one having ordinary skill in the art to form the gel of Cordova and Pearce et al with a higher water content and lower PVA content than taught in Cordova, in order lower the

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material cost in manufacturing the gel while maintaining the gel properties, as taught by Bianco.

Thus, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to form the article of Pearce et al and Cordova with the PVA solution of Cordova having a higher water content and lower PVA content, in order to lower the cost of manufacturing the gel, as taught by Bianco.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pearce (US 2004/0048018 A1) and Shapero (USPN 5,506,290).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Bruenjes whose telephone number is 571-272-1489. The examiner can normally be reached on Monday thru Friday from 8:00am-4:30pm.

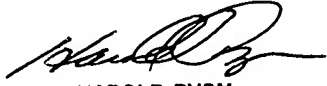
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher P Bruenjes
Examiner
Art Unit 1772

CPB *CPB*
June 7, 2006


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

6/8/06